Naval Audit Service

Audit Report

Officer Personnel Information System Data Accuracy

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N2009-0048

29 September 2009

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N2008-NFO000-0114
29 Sep 09

MEMORANDUM FOR COMMANDER, NAVY PERSONNEL COMMAND

Subj: **OFFICER PERSONNEL INFORMATION SYSTEM DATA ACCURACY (AUDIT REPORT N2009-0048)**

Ref: (a) NAVAUDSVC memo N2008-NFO000-0114, dated 15 October 2007
(b) SECNAV Instruction 7510.7F, "Department of the Navy Internal Audit"

Encl: (1) Status of Recommendation
(2) Background
(3) Pertinent Guidance
(4) Scope and Methodology
(5) Data Elements for Accuracy and Population Tests
(6) Sample Results and Projections
(7) Management Response

1. **Introduction.**

a. We have completed the subject audit announced in reference (a). Our audit focused on the accuracy of data in Officer Personnel Information System (OPINS), and the readiness of the system to be migrated to the Defense Integrated Military Human Resources System (DIMHRS). The audit recommendation, summarized management response, and Naval Audit Service comment on the response are contained in paragraph 6. Paragraph 7 provides information on audit followup. The complete text of the management response is in Enclosure (7).

b. OPINS generates and maintains the official automated personnel records of all U.S. Navy/Navy Reserve (USN/USNR) active duty officers[1] and officer candidates. We reviewed 15 data elements for 146 officers in OPINS, and found that the data tested in OPINS was approximately 97 percent accurate.[2] We also ran a "completeness" test on 9 data elements in OPINS for 52,026 officers, and found that they were between 98 and 100 percent complete (see Paragraph 4, Audit Results). We concluded that OPINS is accurate, reliable, and sufficiently supports current operations. However, we were not able to identify data accuracy standards for OPINS other than a generic Operational

[1] The term Navy Reserve active duty officers refers to reserve officers who have been recalled to active duty.
[2] See Enclosure 4, Scope and Methodology, for further details.

Requirements Document (revised 10 February 2005) developed for the potential migration of systems to DIMHRS; it states that data should be 99.9 percent accurate for the migration. Although we found no material weaknesses, a high accuracy percentage, and internal control checks that identified errors in OPINS data, we are concerned, from a good business perspective, about the absence of OPINS data accuracy standards. Therefore, we are recommending the establishment of interim OPINS data accuracy standards to be in effect until OPINS migrates to DIMHRS or another system. We did not evaluate whether OPINS was prepared for migration to DIMHRS because of unresolved DIMHRS implementation issues being addressed during the time of the audit. According to the Program Executive Office Enterprise Information Systems (PEO-EIS) for the Sea Warrior Program (PMW 240), a final decision on DIMHRS implementation is not expected before Fiscal Year 2010.

2. **Reason for Audit.**

a. The objective of the audit was to verify that: (1) OPINS data was accurate, reliable, and supported current operations; and (2) OPINS was properly prepared to migrate to DIMHRS.

b. This audit was requested by the then-Deputy Assistant Secretary of the Navy (Manpower and Reserve Affairs). The audit addresses the Human Capital Practices risk area. OPINS is the authoritative data system for officer data in the USN/USNR. It has been included in the list of legacy systems that the USN has identified for migration to DIMHRS.

3. **Background.**

a. OPINS contains information on all active duty officers and officer candidates for both current and historical purposes, which it pulls from various Navy operated personnel systems. At the time of our audit work, OPINS had approximately 76,000 officer records, and each record had approximately 1,000 data elements. The Branch Head of Data Quality Management and System Support (PERS-341) has overall responsibility for maintaining OPINS.

b. There are four main functions for which OPINS data is used. They are pay, end strength, career progression, and promotion.

4. **Noteworthy Accomplishments.** We found that OPINS has imbedded quality assurance checks to check for errors. According to PERS-341, these quality assurance checks found many of the same errors we found during the audit. For the errors the checks did not find, PERS-341 told us that it was likely they would have been found in a matter of time. PERS-341 produces daily exception and error reports that indicate anomalies in the data that are addressed by analysts daily and PERS-341 has a data

cleansing group that is used to search the database for inaccuracies that need to be corrected.

5 **Summary of Audit Results.**

a. We found selected data elements in OPINS to be highly accurate. Audit analysis showed for the portion of the sampled data that was verifiable, we can project with a 95 percent confidence level that OPINS data accuracy was 97.7 percent, and that 2.3 percent of the data was either missing (0.9 percent) or inaccurate (1.4 percent).[3]

b. We tested 15 data elements[4] in each of 146 statistically sampled officer records[5] (totaling 2,190 individual tests).[6] After analyzing the test results, we classified the OPINS data into one of two categories, verifiable or nonverifiable. Verifiable elements were those that could be tested using supporting documentation located in the Electronic Military Personnel Records System (EMPRS). Nonverifiable elements were those that could not be tested because they did not have a record established in EMPRS or supporting documentation was missing in EMPRS. For purposes of this report, the term "verifiable" means that we were able to test the data and conclude if it was accurate or inaccurate.

c. We performed a population test on nine data elements[7] in the records for all active duty officers, reserve officers on active duty, and recalled to active duty reserve officers. Six of the selected data elements were 100 percent populated and the other three data elements were populated between 97 and 99 percent. We found that the Precedence Year Group (PYG) data element had significantly more blank entries than the other eight data elements tested. The number of blank occurrences for PYG was 1,631 out of 52,026.

d. **The Results for Our Verification and Other Testing.**

i. **Verifiable OPINS Data.** We were able to verify 1,753 data elements (80 percent) of the 2,190 selected for testing (nonverifiable data results will be discussed in the following paragraph). We found 40 errors (2.3 percent). Ten of those errors were observed in the Date of Initial Entry Military Service (DIEMS) data element. The next highest number of errors in a data element was five in the PYG data element. Four data elements had four errors each, two had three errors, three had one error, and four had zero errors[8] (see Table 1 in Enclosure 6 for a breakdown of errors per data element). The data in OPINS was considered to be in error if it met one of the following three conditions: (1) the data element in OPINS was blank and supporting documentation existed in

[3] For more information and details, see Enclosure 4.
[4] Data elements identified as critical by four main functional area end users of OPINS data.
[5] Officer record is the data record established in OPINS for individual officers.
[6] See Enclosure 4, Scope and Methodology for further details.
[7] Enclosure 5, Table 2 shows the data elements and the number of blank entries found in the population test.
[8] Enclosure 5, Table 1 shows the data elements and the number of errors found in data analysis.

EMPRS (0.9 percent); or (2) the data in OPINS did not match the supporting documentation in EMPRS (1.4 percent); or (3) supporting documentation in EMPRS was illegible (0.0 percent).

ii. **Nonverifiable OPINS Data**

(a). We were unable to verify 437 data elements (20 percent) of the 2,190 selected for testing. Officer records that were not established in EMPRS accounted for 17.5 percent of the nonverifiable data (20 percent total). These were officers classified in OPINS as prospective gains. An example of a prospective gain is an officer candidate who is still in school or in the U.S. Naval Academy. A prospective gain has a "shell record" established in OPINS that contains basic information (i.e., name and Social Security number). When they are officially commissioned as an officer in the Navy and gained to strength, the rest of their OPINS record will be populated. Officers do not have a record established in EMPRS until after they are commissioned. Without an established EMPRS record, there is no place for existing supporting documents that may support the limited data in OPINS.

(b). The other 2.5 percent of nonverifiable data consisted of officers who had a record established in EMPRS, but the source documentation was not available in EMPRS for certain data elements. According to Navy Personnel Command (NPC) personnel, the source documents were unavailable because they had not been scanned into EPMRS due to a backlog in scanning. We did not verify the length of time of the backlog, and do not know if the data has been scanned in as of the date of this report.

(c). The 20 percent nonverifiable data cannot be determined to be accurate or inaccurate until the source documents are scanned and made available in EMPRS for review.

iii. **Date of Initial Entry Military Service (DIEMS)**. DIEMS indicates when an officer was first appointed, enlisted, or conscripted into any military service of the United States (active or reserve component). DIEMS is usually used for pay and career progression. Of the 40 total data element errors we found in our statistical sample, 10 were in the DIEMS data element (significantly more than the other tested elements). We notified PERS-341 of the specific errors we found, and they agreed to take corrective action.

iv. **Universe Population Testing**. An additional test was performed to determine if nine data elements that should be populated for all active duty officers, reserve officers on active duty, and recalled reserve officers records in OPINS[9] were populated with data. We performed the population test on all of the fields in OPINS for the nine selected data

[9] A reserve officer on active duty is a reservist who is on active duty for full time support or on active duty for special work. A recalled reserve officer is a reservist who is recalled for normal duties for which they were commissioned.

elements (see Enclosure 5 for the nine elements tested). Six of the selected data elements were 100 percent populated, and the other three data elements were populated between 97-99 percent. We found that 1,631 (3.1 percent) of 52,026 selected officer records had a blank PYG data element, which is significantly higher than the other 8 data elements tested. This data element was tested because a community manager who regularly uses and is familiar with OPINS stated that PYG was sometimes blank when it should not be. The manager stated that when it was blank, it would take extra time to track down the proper information to populate it in OPINS.

v. **Data Accuracy Standards.**

(a) Activity personnel stated that their accuracy goal for the OPINS data is 100 percent; however, they had not established written accuracy standards. A generic Operational Requirements Document (revised 10 February 2005), developed for the potential migration of systems to DIMHRS, states that data should be 99.9 percent accurate for the migration

(b) Also, Department of Defense Instruction 7730.54, dated 31 March 2008, provides overall guidance for the maintenance and reporting of personnel data pertaining to members of the reserve component. While this instruction describes the accuracy percentages that certain data elements are required to meet for reserve component members, it does not apply to active duty officers. The Data Quality Management Branch Head was not aware of similar guidance for active duty officers,[10] and we were unable to identify any. We did note that the OPINS data we reviewed met the reserve component accuracy percentages for 13 of the 15 elements. The remaining two elements: Pay Entry Base Date (97 percent accurate vs. reserve standard of 98 percent accuracy) and DIEMS (93 percent accurate vs. reserve standard of 98 percent accuracy) did not meet the reserve component members accuracy standards.

vi. **Internal Controls.**

(a) We evaluated the general system controls of OPINS using the Government Accountability Office Federal Information Systems Controls Audit Manual. We reviewed OPINS data reporting processes and documented user policies and procedures. We reviewed Navy Personnel Command Fiscal Year (FY) 2005 through FY 2007 Management Control Certification Statements to identify material weaknesses related to OPINS reported and status of corrective actions. The Navy Personnel Command did not identify any OPINS-related material weaknesses in their Management Control Certification Statements.

[10] During the data elements testing the audit team did not differentiate between active duty and reserve officers.

(b) To check for errors, OPINS has quality assurance checks written into the system. It also produces daily exception and error reports that indicate anomalies in the data that are addressed by analysts daily. A data cleansing group is also used to search the database for inaccuracies. We did not identify any internal control weaknesses in OPINS internal controls.

6. **Recommendation and Corrective Actions.**

We recommend that PERS-341:[11]

Recommendation 1. Establish interim OPINS data accuracy standards to be in effect until OPINS migrates to DIMHRS or another system.

Management Response to Recommendation 1. Concur. Pers-33 is in the process of establishing data accuracy standards for personnel data which can be applied to multiple systems within the Pay and Personnel Line of Business. There are approximately 1,261 data elements contained within OPINS that comprise the personnel data record; however, not all records require all 1,261 data elements to be populated. There is, however, a core set of data that every record will have. This core set of data will be the baseline for the data quality standards. The following plan of action and milestones is submitted:

12/31/09	Complete analysis
1/1/10	Define core data set and interim data accuracy standards for pay and personnel (pending final policy direction from Enterprise Information Management Board
2/28/10	Submit accuracy standards to the EIM Board
3/1/10	EIM Board develops policy and obtains approval

Naval Audit Service comment on response to Recommendation 1. Actions planned meet the intent of the recommendation. Pers-33 states that data accuracy standards for personnel data across multiple systems are currently being developed. Application of these standards to OPINS should be completed within the timeframes noted in the response.

7. **Audit Followup Information.**

a. Actions planned by PERS-33 meet the intent of the Recommendation. The Recommendation is considered open pending completion of the planned corrective actions, and is subject to monitoring in accordance with reference (b). Management

[11] The Recommendation is addressed to Pers-341. Pers-33 provided the response as directed by Pers-3. Both Pers-33 and Pers-34 fall under the command of Pers-3.

should provide a written status report on the recommendations within 30 days after target completion date.

b. Please provide all correspondence to the Assistant Auditor General for Manpower and Reserve Affairs Audits, XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX, with a copy to the Director, Policy and Oversight, XXXXXXXXXXXXXX. Please submit correspondence in electronic format (Microsoft Word or Adobe Acrobat file), and ensure that it is on letterhead and includes a scanned signature.

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c. Any requests for this report under the Freedom of Information act must be approved by the Auditor General of the Navy as required by reference (b). This report is also subject to followup in accordance with reference (b).

8. We appreciate the cooperation and courtesies extended to our auditors.

[redacted]

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XXXXXXXXXXXXXX
Assistant Auditor General
Manpower and Reserve Affairs Audits

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Enclosure 1:

Status of Recommendation

Recommendations							
Finding[12]	Rec. No.	Page No.	Subject	Status[13]	Action Command	Target or Actual Completion Date	Interim Target Completion Date[14]
1	1	6	Establish interim OPINS data accuracy standards to be in effect until OPINS migrates to DIMHRS or another system.	O	PERS-341	3/1/10	

[12] / + = Indicates repeat finding.
[13] / O = Recommendation is open with agreed-to corrective actions; C = Recommendation is closed with all action completed; U = Recommendation is undecided with resolution efforts in progress.
[14] If applicable.

Enclosure 2:

Background

Navy Personnel Command, (NPC) (N1) is the sponsor of the Officer Personnel Information System (OPINS). They pay for the cost of ownership and other applicable costs to keep the system operating. The Defense Information Systems Agency (DISA), located in Mechanicsburg, PA, hosts the mainframe for the system, and the technical functions are handled in Space and Naval Warfare (SPAWAR) System Center, New Orleans, LA (SSC-NOLA). OPINS interfaces with numerous systems that feed information into it, as well as systems into which it feeds information.

There are four main functions for which OPINS data is used. They are: pay; end strength; career progression; and promotion. More specifically, OPINS is used to calculate officer staffing strength, authorize the establishment of the official military pay account, and to provide critical, historical, and current data support to various decision support systems such as officer promotion selection boards, Navy order writing, officer distribution, and training. The officer distribution and promotion processes are dependent upon the quality of OPINS information, as are numerous managerial and congressional groups seeking aggregated information about the active officer populations. OPINS is also the source of data for numerous NPC and Department of Defense reporting and tracking requirements. For instance, OPINS data can be used to produce reports for Congress and other customers interested on obtaining U.S. Navy manpower data. Reports are produced based on a customer's elements of interest and Unit Identification Code.

Enclosure 3:

Pertinent Guidance

Department of Defense (DoD)

- *DoD Directive 8320.02, "Data Sharing in a Net-Centric Department of Defense," 23 April 2007,* establishes policies and responsibilities to implement data sharing, in accordance with the DoD Chief Information Officer Memorandum dated 9 May 2003 throughout DoD. Also directs the use of resources to implement data sharing among information capabilities, services, processes, and personnel interconnected within the Global Information Grid (GIG) according to the DoD Directive 8100.1, "GIG Overarching Policy."

- *DoD Instruction 7730.54 "Reserve Components Common Personnel Data System," 31 March 2008,* implements policy, assigns responsibilities, establishes objectives, and provides overall guidance for the maintenance and reporting of personnel data pertaining to members of the Reserve components.

Department of the Navy (DON)

- *Secretary of the Navy Instruction 5000.36A, "Department of the Navy Information Technology Applications and Data Management," 19 December 2005.* This instruction establishes the overarching policy for DON applications and data management. It also establishes roles and responsibilities for the development, execution, and maintenance of DON Information Technology processes and tools to transform applications and data into net-centric naval capabilities consistent with DoD policy for interoperability and data sharing.

    - Secretary of the Navy Instruction 5000.36A defines an authoritative data source as, among other things, a source of data or information that is recognized to be valid or trusted because it is considered to be a highly reliable or accurate. According to the Officer Personnel Information System (OPINS) functional manager, OPINS is an authoritative data source, as defined above.

Enclosure 4:

Scope and Methodology

We conducted the audit during the period of 16 November 2007 through 26 June 2009. Our audit work focused on the data accuracy of Officer Personnel Information System (OPINS) records, which generates and maintains the official automated personnel records of all the United States Navy/United States Navy Reserve (USN/USNR) active duty officers and officer candidates. We did the majority of the data accuracy testing between 14-25 April 2008, and performed the population test on 8 July 2008. The OPINS universe was approximately 76,000 records as of 30 September 2007, with roughly 52,000 of those records counted for strength.[15] At the time of our audit work, each OPINS record had approximately 1,000 data elements.

We interviewed OPINS' managers, end-users, and functional users to identify the data elements most important to their decision making. We included those elements in our sample. We spoke to personnel from Navy Personnel Command in Millington, TN, who were identified as knowledgeable in one of each of the four main functional areas of OPINS. We spoke to the Branch Head of Data Quality Management and System Support (PERS-341) to discuss the pay function side of OPINS, Officer Appointments and Promotions Division (PERS-802) to discuss the promotion function side of OPINS, and Officer Retirements Branch (PERS-822) to discuss the career progression function side of OPINS. We spoke to an Oceanography Community Manager about the end strength function side of OPINS, as this manager was identified to us as the expert for the OPINS end-strength function.

We evaluated the general system controls of OPINS using the Government Accountability Office Federal Information Systems Controls Audit Manual. We reviewed OPINS data reporting processes and documented user policies and procedures.

Navy Personnel Command (NPC) personnel provided the audit team with a database containing all the officers' names and last four of the Social Security Number (SSN) from which to select a sample of officer records. From this, we selected a statistical sample of 150 officers to review.[16] However, we were only provided 146 of the records. It was explained that the other records were not available because the officer's records may

[15] The term "counted for strength" refers to: all active duty officers, all recalled to active duty officers, and reserve officers on active duty. "Non-strength" records refer to pending gain officers from commissioning programs, pending gain officers from reserves/recall, officer candidates, Midshipmen, and officer losses up to 13 months from loss date.

[16] We increased our originally planned, statistically valid sample of 57 officers to 150 officers at NPC management's request.

have been lost or the record may have been dropped[17] from OPINS between the time of supplying the list of SSNs and pulling the records. With our sample size, we were able to project the data accuracy of the OPINS system with a 95 percent confidence level.

We met with NPC personnel (PERS-312E), who oversee the Electronic Military Personnel Records System (EMPRS). EMPRS is a Web-based system that keeps digitally scanned officers' records (documents/forms) in a central location. They identified Department of Defense and Department of the Navy forms that we used as source documentation to perform the critical data elements testing.

For the 146 records sampled, we evaluated the accuracy of 15 OPINS data elements. The 15 data elements were identified by data users[18] as the most important for decision making in one of the 4[19] main functional areas of OPINS. Some data elements were identified as critical for more than one functional area. We performed the accuracy test for 146 OPINS records received from the NPC using source documentation located in EMPRS. For each record, the audit team located the officer's file in EMPRS using the officer's SSN and then compared the source documentation in EMPRS for each data element with the data in OPINS to determine its accuracy.

We visited the Space and Naval Warfare Systems Command (SPAWAR SC) at the Navy Annex, VA, to observe the creation of a query/report of active duty officers and active reserve officers based on the OPINS data to determine if the selected fields were populated. We tested nine data elements for OPINS records for active duty officers, reserve officers on active duty, and all reservists recalled to active duty to determine if the selected data elements were populated These elements were identified by OPINS end users as being critical to one of the main functional areas for which OPINS is used.

To determine if OPINS was prepared to migrate to the Defense Integrated Military Human Resources System, we spoke to Joint Information Management/Information Technology (IM/IT), Office of the Chief of Naval Operations (OPNAV), Mission and Functions of Manpower, Personnel Training and Education (MPT&E) Management Division. Because the Navy had not yet developed a migration plan for legacy systems, we did not evaluate whether OPINS was prepared for migration.

We reviewed NPC Fiscal Year 2005 through Fiscal Year 2007 Management Control Certification Statements to identify material weaknesses related to OPINS and status of corrective actions.

[17] Lost or dropped means the sailor was either no longer in the Navy (retired or service contract ended) and was past 13 month loss date retention, or went back to reserve status.
[18] Data users were office representatives of the four main functional areas for which OPINS was identified as being used.
[19] See Enclosure 5, Table 5 "OPINS Critical Data Elements Selected for Testing" for further details.

We contacted the Department of Defense Inspector General (DoDIG) and Defense Information Systems Agency (DISA) to obtain access to the most recent risk assessment conducted on OPINS, the security plan, and the continuity of operations plan.

We reviewed DoDIG reports regarding general and application controls at DISA Centers for Computing Services to gather OPINS internal controls information.

The Deputy Commander, NPC was briefed three times during the audit. She was presented with the objectives and proposed audit plan at the start of the audit (14 November 2007), the proposed data analysis for the scope and methodology at the end of the survey phase (14 March 2008), and the preliminary audit results toward the end of the analysis (28 August 2008).

The audit team maintained contact with the OPINS functional manager to notify him of progress of data analysis and work being performed. Our last contact with the OPINS functional manager was 12 January 2009.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

There were no previous audit reports regarding OPINS on which to follow up.

The Federal Managers' Financial Integrity Act (FMFIA) of 1982, as codified in Title 31, United States Code, requires each Federal Agency head to annually certify the effectiveness of the agency's internal and accounting system controls. In our opinion, the conditions noted in this report do not warrant reporting in the Auditor General's annual FMFIA memorandum identifying management control weaknesses to the Secretary of the Navy.

Enclosure 5:

Data Elements for Accuracy and Population Tests

Data Element Code	Data Element Name	Brief Description
SSN	Social Security Number	A nine-position number assigned to an individual by the Social Security Administration.
Grade/Rank	Current Grade	A one-position code which identifies the grade in which an officer is presently serving unless he/she is serving in a spot promotion grade.
Date of Rank	Date of Rank	A six-position date (YYMMDD) which is an officer's date of rank in his/her current grade.
DGAD	Date of Gain to Active Duty	A six-position date (YYMMDD) upon which an officer commences the current tour of active duty. Date is inclusive of travel time and period of physical examination performed en route from home, where applicable.
PEBD	Pay Entry Base Date	A six-position date (YYMMDD) computed to represent the date when all creditable service for pay purposes under the Career Compensation Act of 1949, as amended, would have begun if it were continuous to the present. It incorporates all service in any of the uniformed services of the United States, active and inactive, commissioned and enlisted.

ADBD	Active Duty Base Date	A six-position date (YYMMDD) computed to represent the date when all active duty (enlisted, warrant, and commissioned) in any of the U.S. armed services and their Reserve components would have begun if it were continuous to the present.
DIEMS	Date of Initial Entry Military Services	A six-position past date (YYMMDD) which indicates when an officer was first appointed, enlisted, or conscripted into any military service of the United States (active or reserve component). This date is fixed and is not adjusted for breaks in service.
Name	Name	A maximum 27-position alphabetic data element that contains an officer's full name, including surname, first and middle name or names, and suffix if applicable. Name should be in the above sequence. Name cannot contain special characters (hyphen, comma, period, apostrophe, etc.) or more than one space between names.
DOB	Date of Birth	A six-position date (YYMMDD) which shows the last two positions of year, month and day of an officer's birth.

Desig	Designator	The officer designator codes are four position numbers used to group officers by categories for personnel accounting and administrative purposes and to identify the status of officers. These codes identify, through the first three positions, the categories in which officers are appointed and/or designated, and, through the fourth position, the status of the officers within the various categories.
GLI	Gain Loss Indicator	A one-position alphabetic code which indicates the active duty strength status of an officer. Categories are: 1. Active duty strength (Indicator is S). 2. Prospective gain to active duty strength (Indicator is G, A, or F)
Sex	Sex Code	A one-position alphabetic code used to identify an officer as male or female.
SGLI	Gain Loss Indicator - Strength	A one-position alphabetic code which indicates the Mobility Position Number (MPN) strength status of an officer. This code is used for MPN strength accounting purposes.
ACBD	Active Commission Base Date	A six-position date (YYMMDD) computed to represent the date when all active commissioned service in any of the U.S. armed services and their Reserve components would have begun if it were continuous to the present.
PYG	Precedence Year Group	A three-position number that reflects the present precedence of an officer for promotional purposes.

☐ Data elements selected for population test.

Enclosure 6:

Sample Results and Projections

Table 1: Errors per Data Elements

Table 1 shows the total number of errors for each data element tested. Date of Initial Entry Military Service (DIEMS) showed significantly more errors during the data accuracy testing than the other 14 data elements tested. There were a total of 40 errors found during data analysis.

Data Element	No. of Errors
Social Security Number	0
Date of Rank	0
Sex Code	0
Name	0
Grade/Rank	1
Date of Gain to Active Duty	1
Date of Birth	1
Designator	3
Gain/Loss Indicator	3
Pay Entry Base Date	4
Active Duty Base Date	4
Active Commission Base Date	4
Gain/Loss Indicator – Strength	4
Precedence Year Group	5
Date of Initial Entry Military Services	10
Total	**40**

Table 2: Universe Population Testing

Table 2 shows the results of the universe population testing on the Officer Personnel Information System (OPINS) universe for the nine selected data elements (see Enclosure 5 for the nine elements tested). Six of the selected data elements were 100 percent populated and the other three data elements were populated between 97-99 percent. We found that the Precedence Year Group data element had significantly more blank entries than the other eight data elements tested.

Data Element	No. of Blank Entries	Percentage of Blank Entries (out of a universe of 52,026 records)
Social Security Number	0	0.00 %
Grade/Rank	0	0.00 %
Date of Rank	**4**	**0.01 %**
Date of Gain to Active Duty	0	0.00 %
Pay Entry Base Date	**28**	**0.05 %**
Name	0	0.00 %
Date of Birth	0	0.00 %
Sex Code	0	0.00 %
Precedence Year Group[20]	**1,631**	**3.1 %**

Navy Personnel Command personnel stated that Precedence Year Group codes are not assigned to ensigns and also that ensigns[21] do not have seniority until they become lieutenant junior grade. Ensigns were included in the initial testing. Based on this information, another test was performed on 12 August 2008 for Precedence Year Group, removing ensigns from the equation. By doing this, the number of blank occurrences became 1,631 for the Precedence Year Group data element.

[20] We excluded ensigns from our test of Precedence Year Group because Navy Personnel Command personnel informed us that this code is not assigned to ensigns.
[21] Indicates the grade at which an officer candidate is commissioned upon completion of his/her specific course.

Table 3: OPINS Overall Accuracy for Verifiable Data

Table 3 shows the overall accuracy for the verifiable portion of the OPINS data accuracy testing.

Data Accuracy Results	Lower Bound	Point Estimate	Upper Bound
Percentage of Accurate Data Values In OPINS	96.7%	97.7%	98.4%
Percentage of Inaccurate Data Values In OPINS	0.9%	1.4%	2.0%
Percentage of Missing Data Values In OPINS	0.5%	0.9%	1.7%

For the verifiable portion, we projected that the OPINS data accuracy was 97.7 percent with a 95 percent confidence interval between 96.7 percent and 98.4 percent. Additionally, we projected that 1.4 percent of OPINS data was inaccurate with a 95 percent confidence interval between 0.9 percent to 2.0 percent and that 0.9 percent of OPINS data cells were not populated with a 95 percent confidence interval between 0.5 percent to 1.7 percent.

Table 4: OPINS Main Functions Accuracy

Table 4 shows the accuracy of the verifiable data elements across the four main functional areas for which OPINS data is used. The table shows the accuracy percentage for a group of data elements that pertain to the functional area. Certain data elements are contained in more than one functional area. The table does not show the number of officers with perfect records.

Data Accuracy in OPINS	Lower Bound	Point Estimate	Upper Bound
Percentage of Promotion	96.3%	98.3%	99.2%
Percentage of Pay	95.0%	97.1%	98.4%
Percentage of Career progression	92.5%	95.8%	97.7%
Percentage of End Strength	95.1%	97.2%	98.4%

There is a 90 percent chance that promotion's accuracy falls between 96.3-99.2 percent; pay's accuracy between 95.0-98.4 percent, career progression's accuracy between 92.5-97.7 percent, and end strength's accuracy between 95.1-98.4 percent.

Table 5: OPINS Critical Data Elements Selected for Testing

This table shows what data elements were used in the analysis across the functional areas.

Promotion	Pay	Career Progression	End Strength
Designator	Date of Gain to Active Duty	Date of Gain to Active Duty	Designator
Active Commission Base Date	Pay Entry Base Date	Pay Entry Base Date	Pay Entry Base Date
Grade/ Rank	Active Duty Base Date	Active Duty Base Date	Active Duty Base Date
Date of Rank	Date of Initial Entry	Date of Initial Entry	Precedence year Group
	Date of Rank		Gain Loss Indicator - Strength
	Grade/Rank		Gain Loss Indicator
			Sex Code

Table 6: OPINS Nonverifiable Data

Table 6 shows the percentage of OPINS data that we could not verify.

Reason Data Value in OPINS Could Not be Verified	Confidence Level	Lower Bound	Point Estimate	Upper Bound
Record not established in EMPRS	95%	13.0%	17.5%	23.1%
Record missing from EMPRS	95%	1.6%	2.5%	3.7%

We projected that 17.5 percent of officer records were not established in the Electronic Military Personnel Records System (EMPRS), and 2.5 percent of officer records were established in EMPRS but source documentation had not been created yet for certain data elements. The 95 percent confidence intervals for these results are presented in Table 3.

Enclosure 7:

Management Response

DEPARTMENT OF THE NAVY
NAVY PERSONNEL COMMAND
5720 INTEGRITY DRIVE
MILLINGTON TN 38055-0000

7510
PERS-33
23 Sep 09

MEMORANDUM FOR ASSISTANT AUDITOR GENERAL FOR MANPOWER AND RESERVE AFFAIRS AUDITS

Subj: OFFICER PERSONNEL INFORMATION SYSTEM DATA ACCURACY (DRAFT AUDIT REPORT N2008-NFO000-0114)

Ref: (a) Assistant Auditor General for M&RA Audits memo 7510 N2008-NFO000-0114 of 28 Aug 09

Encl: (1) Management Response

1. Per reference (a), enclosure (1) is forwarded.

2. This report does not contain information deemed to be exempt from release under FOIA.

[redacted]

FOIA (b)(6)

[redacted]
Director, Records/Data Maintenance
Quality Division (PERS-33)
By direction

NAVAUDSVC AUDIT REPORT
(N2008-NFO000-0114 – OFFICER PERSONNEL INFORMATION DATA ACCURACY)

FINDING TITLE AND #: Officer Personnel Information System Data Accuracy, N2008-NFO000-0114

RECOMMENDATION #1: Establish interim OPINS data accuracy standards to be in effect until OPINS migrates to DIMHRS or another system.

BUPERS MANAGEMENT RESPONSE: **CONCUR**. Pers-33 is in the process of establishing data accuracy standards for personnel data which can be applied to multiple systems within the Pay and Personnel Line of Business. There are approximately 1,261 data elements contained within OPINS that comprise the personnel data record; however, not all records require all 1,261 data elements to be populated. There is, however, a core set of data that every record will have. This core set of data will be the baseline for the data quality standards. The following plan of action and milestones is submitted:

12/31/09	Complete analysis
1/1/10	Define core data set and interim data accuracy standards for pay and personnel (pending final policy direction from EIM Board
2/28/10	Submit accuracy standards to the EIM Board
3/1/10	EIM Board develops policy and obtains approval

Enclosure (1)